

STATEMENT OF WORK FOR REMEDIAL DESIGN/ REMEDIAL ACTION

1.0 Introduction

- 1.1 Site Description
- 1.2 Purpose
- 1.3 General Requirements for Remedial Design/Remedial Action (RD/RA)
 - 1.3.1 Conducting the RD/RA
 - 1.3.2 Items Covered by RD/RA
 - 1.3.3 Estimated Cost
 - 1.3.4 Personnel, Materials and Services
 - 1.3.5 RD/RA Work Plan
 - 1.3.6 Review Process
 - 1.3.7 Guidance and Reference Material
 - 1.3.8 Communication
 - 1.3.9 Documentation
 - 1.3.10 EPA Oversight
- 1.4 Timeframes and Deadlines for RD/RA

2.0 Project Planning and Support

- 2.1 Project Planning
 - 2.1.1 Evaluate Existing Information
 - 2.1.2 Develop RD/RA Work Plan
- 2.2 Develop Other Site-Specific Plans
 - 2.2.1 Site Management Plan
 - 2.2.2 Health & Safety Plan
 - 2.2.3 Sampling & Analysis Plan
- 2.3 Project Status Reports

3.0 Community Involvement

- 3.1 Fact Sheet Preparation Assistance
- 3.2 Technical Support
- 3.3 Public Meeting Support
- 3.4 Public Notice
- 3.5 Report Copies
- 3.6 Maintain Information Repository

4.0 Environmental Sample Acquisition

- 4.1 Mobilization and Demobilization
- 4.2 Field Investigation
 - 4.2.1 Site Reconnaissance
 - 4.2.2 Underground Utilities Search
 - 4.2.3 Soil Sample Collection
 - 4.2.4 Materials Testing
- 4.3 Sample Analysis
- 4.4 Analytical Support and Data Validation
- 4.5 Data Evaluation During RD
 - 4.5.1 Data Usability Evaluation and Field QA/QC
 - 4.5.2 Data Reduction, Tabulation and Evaluation

4.5.3 Development of RD Data Evaluation Summary Report

5.0 Preliminary Design

- 5.1 Design Criteria
- 5.2 Preliminary Project Delivery Strategy and Scheduling
- 5.3 Preliminary Construction Schedule
- 5.4 Specifications Outline
- 5.5 Preliminary Drawings
- 5.6 Basis of Design
- 5.7 Institutional Controls and Access Restrictions
- 5.8 Explanation of Modifications

6.0 Pre-Final and Final Design

- 6.1 Pre-Final Specifications
- 6.2 Pre-Final Drawings
- 6.3 Pre-Final Basis of Design
- 6.4 Pre-Final Project Delivery Strategy and Scheduling
- 6.5 Explanation of Modifications
- 6.6 Final Design Submittal
- 6.7 Draft and Final Construction Quality Assurance Project Plan (CQAPP)
 - 6.7.1 Responsibility of Key Personnel
 - 6.7.2 CQA Personnel Qualifications
 - 6.7.3 Inspection Activities
 - 6.7.4 Sampling Requirements
 - 6.7.5 Documentation
- 6.8 Draft and Final-Draft Operations and Maintenance (O&M) Manual
 - 7.8.1 Description of Normal O&M
 - 7.8.2 Description of Potential Problems
 - 7.8.3 Compliance Monitoring and Sampling and Analysis Plan
 - 7.8.4 Action If Cleanup Standards Are Not Met
 - 7.8.5 Health and Safety Plan for O&M
 - 7.8.6 Description of Equipment
 - 7.8.7 Records and Reporting Mechanisms

7.0 Provide Construction Field Presence and Oversight

- 7.1 Maintain Field Logs and Daily Diaries
- 7.2 Develop Field Sketches and Submit Construction Drawings
- 7.3 Monitor, Update and Report Construction Progress
- 7.4 Conduct Inspections
- 7.5 Prepare Reports on Inspections
- 7.6 Monitor Quality Assurance/Quality Control Procedures

8.0 Project Performance (Operation and Maintenance [O&M])

- 8.1 Review and Update Final-Draft O&M Manual
- 8.2 Ensure Adequate Training for O&M Staff
- 8.3 Operate the Remedy
- 8.4 Evaluate Remediation Operational Performance
 - 8.4.1 Oversight of Performance Tests
 - 8.4.2 Conduct Performance Sampling

- 8.4.3 Project Performance Reporting
 - 8.5 Compliance Monitoring
 - 8.5.1 Environmental Sample Acquisition
 - 8.5.2 Sample Analysis
 - 8.5.3 Analytical Support and Data Validation
 - 8.5.4 Compliance Monitoring Data Evaluation Summary Report
- 9.0 Project Completion and Close Out**
 - 9.1 Demobilization
 - 9.1.1 Removal of Temporary Facilities
 - 9.1.2 Site Restoration
 - 9.2 Pre-Final/Final Activities
 - 9.2.1 Conduct Pre-Final/Final Inspection
 - 9.2.2 Conduct Lockout Inspection
 - 9.3 Remedial Action Report
 - 9.4 Work Completion Report

ATTACHMENTS

- Attachment 1: Summary of Deliverables
- Attachment 2: Regulations and Guidance Documents
- Attachment 3: Transmittal of Documents for Acceptance by EPA
- Attachment 4: Transmittal Register

1.0 Introduction

1.1 Site Description

The McCormick & Baxter Superfund Site ("Site") is located on approximately 29 acres in an industrial area of Stockton, California, near the intersection of Interstate 5 and Highway 4. The Site includes Old Mormon Slough, which connects to the Stockton Deepwater Channel on the San Joaquin River. McCormick & Baxter operated a wood treating company from 1946 to 1991 at the Site. Various wood preservation processes were used at the Site during its operational history. Chemical preservatives used at the Site contained creosote, pentachlorophenol (PCP), arsenic, chromium, copper and zinc. Solvents used were petroleum-based fuels such as fuel oil, kerosene, diesel, butane and ether. Groundwater, soil and the sediments of Old Mormon Slough are contaminated with polynuclear aromatic hydrocarbons (PAHs), PCP, metals and dioxin.

The Site was placed on the National Priorities List on October 14, 1992. In March 1999, EPA issued the Record of Decision (ROD) for the Site. The ROD included a final soil and sediment remedy and an interim groundwater remedy. The selected remedy for the soil is excavation of contaminated soil from the eastern portion of the Site, consolidation with contaminated soil on the western portion of the Site, and capping of the western portion.

1.2 Purpose

The purpose of this Statement of Work (SOW) is to set forth the requirements for the Remedial Design/Remedial Action (RD/RA) of the selected soil remedy as defined in the Record of Decision (ROD) issued on March 31, 1999. The RD/RA is generally defined as those activities to be undertaken by the Settling Defendant to develop the final plans and specifications, general provisions, and specific requirements necessary to translate the ROD into the soil remedy to be constructed in the Remedial Action (RA) phase and to ensure the remedy complies with soil cleanup standards and other requirements set forth in the ROD and the Consent Decree (CD). The RA is generally defined as the implementation phase of Site remediation or construction of the remedy, including necessary operation and maintenance (O&M), and performance monitoring, until EPA and DTSC determine that the soil remedy is operational and functional (O&F). This SOW is designed to provide the framework for conducting the RD/RA activities for the soil remedy at the McCormick & Baxter Superfund Site.

This SOW includes:

Figure 1: Site Map

Attachment 1: Summary of Deliverables

Attachment 2: Regulations and Guidance Documents

Attachment 3: Transmittal of Documents for Acceptance by EPA

Attachment 4: Transmittal Register

1.3 General Requirements

1.3.1. Conducting the RD/RA

The Settling Defendant shall design the RA to meet the cleanup standards and other provisions and requirements of the ROD, the CD and this SOW. The Settling Defendant shall conduct the RD/RA in accordance with this SOW, the CD, and the ROD, and shall comply with the *Remedial Design/Remedial Action (RD/RA) Handbook* (U.S. EPA Office of Solid Waste and Emergency Response (OSWER), 9355.0-04B, EPA 540/R-95/059, June 1995) and all other guidance used by

EPA in conducting an RD/RA to the extent deemed appropriate by EPA. The primary contact for this SOW is the EPA Remedial Project Manager (RPM), Marie Lacey (tel: 415-972-3163 or email: lacey.marie@epa.gov). The secondary contact is the Section Chief, Frederick Schauffler (tel: 415-972-3174 or email: schauffler.frederick@epa.gov.)

1.3.2 Items Covered by RD/RA

Remedial Design

The Settling Defendant shall prepare a remedial design that consists of the excavation of soil from the eastern half ("Subarea X") of the Site to meet or exceed the cleanup standards identified in the ROD and CD, consolidation of the excavated material with the soil in the western half ("Subarea Y"), and capping of the consolidated soils (see attached figure). Components of the remedy include: Site clearance and debris removal; excavation of Subarea X soils; initial grading of the area to be capped; backfilling of Subarea X excavations with suitable fill; backfilling and grading of the stormwater ponds with a portion of excavated Subarea X soils; consolidation of the remaining Subarea X soils in Subarea Y; placement of an asphaltic concrete cap over the consolidated material in Subarea Y; cap maintenance for the period until the remedy is declared operational and functional (O&F); and implementation of institutional controls and access restrictions on Settling Defendant's property, as specified in the CD.

Note: The Settling Defendant shall include in the RD/RA Work Plan (see Section 1.3.5) a rationale and methodology for determining the suitability of fill material. Suitable fill material shall, at a minimum, meet ROD cleanup standards and have appropriate geotechnical characteristics. On-site soils below the Subarea X excavation may be considered for use as fill material to form a protection layer under the Subarea Y cap. The Settling Defendant shall include the sampling of all proposed fill material, either from on-Site or off-Site sources, in the Sampling & Analysis Plan. The Settling Defendant shall follow the requirements of Section 4.0, "Environmental Sample Acquisition," for collection of these samples. If potential on-Site fill material is not to be sampled until after the excavation of Subarea X contaminated soils has been completed, the Settling Defendant shall include in the RD/RA Work Plan a contingency plan for obtaining suitable off-Site fill material in the event that the on-Site fill is not found to be suitable or is of insufficient volume.

Remedial Action

The RA involves the excavation of soil from the eastern half (Subarea X”) of the Site to meet or exceed the cleanup standards identified in the ROD and CD, consolidation of the material with the soil in the western half (“Subarea Y”), and capping of the consolidated soils. Components of the RA include: Site clearance and debris removal; excavation of Subarea X soils; backfilling of Subarea X excavations with suitable fill; backfilling and grading of the stormwater ponds with a portion of excavated Subarea X soils; consolidation of the remaining Subarea X soils in Subarea Y; placement of an asphaltic concrete over the consolidated material in Subarea Y; cap maintenance for the period until the remedy is declared operational and functional (O&F); and implementation of institutional controls and access restrictions on Settling Defendant’s property, as specified in the CD.

1.3.3 Estimated Cost

The Settling Defendant’s estimated present worth value of the soil RD/RA, as outlined in the ROD, is \$7,089,559.77, excluding the cost of cap maintenance for the period until the remedy is declared O&F.

1.3.4 Personnel, Material and Services

The Settling Defendant shall furnish all necessary and appropriate personnel, materials and services needed for, or incidental to, performing and completing the RD/RA.

1.3.5 RD/ RA Work Plan

The Settling Defendant shall submit a draft RD/RA Work Plan in accordance with Paragraphs 11 and 12 of the CD and Section 2.1.2 of this SOW. After receipt of comments on the draft RD/RA Work Plan, the Settling Defendant shall submit a final RD/RA Work Plan for review and approval pursuant to Section XI of the CD, “EPA Approval of Plans and Other Submissions.” The deliverables and schedule approved by EPA in the final RD/RA Work Plan shall become the requirements of the CD. The Settling Defendant shall submit the major deliverables using the form “Transmittal of Documents for Acceptance by EPA” (Attachment 3) or any other form approved by EPA.

1.3.6 Review Process

The Settling Defendant shall consult and cooperate with EPA during the RD/RA process and shall discuss and obtain approval for critical decisions in meetings with EPA. Following such meetings, Settling Defendant shall draft meeting summary notes documenting decisions made and the rationale for those decisions. Meeting notes shall include appropriate layout and design drawings or figures used in the meetings. EPA shall review and approve all meeting summary notes. The meeting summary deliverable shall be factual and shall present any technical disputes in an unbiased manner.

1.3.7 Guidance and Reference Material

A list of primary guidance and reference material is attached (Attachment 2). In all cases, the Settling Defendant shall use the most recently issued guidance as appropriate.

1.3.8 Communication

The Settling Defendant shall communicate weekly with the EPA RPM, either in face-to-face meetings, telephone calls or by email correspondence, as determined by the EPA RPM. The Settling Defendant shall conduct monthly (or less frequently if approved by EPA) meetings with EPA wherein the Settling Defendant shall report and discuss their progress with and obtain technical input from EPA.

1.3.9 Documentation

The Settling Defendant shall document all decisions that are made in meetings and in conversations with EPA. The Settling Defendant shall forward this documentation to the EPA RPM within five working days of the meeting or conversation.

1.3.10 EPA Oversight

EPA will provide oversight of the Settling Defendant's activities throughout the RD/RA. EPA will review deliverables to assess the likelihood that the RD/RA correctly identifies the ROD cleanup standards and other requirements of the ROD and CD, and that the RD/RA will achieve the soil cleanup standards and other requirements set forth in the ROD and CD. Notwithstanding any action by EPA, the Settling Defendant remains fully responsible for achieving the cleanup standards and other provisions and requirements of the ROD and CD. Nothing in the CD, in this SOW, or in EPA's approval of the RD/RA, or any other submission, shall be deemed to constitute a warranty or representation of any kind by EPA that full performance of the RD/RA will achieve the ROD cleanup standards. The Settling Defendant's compliance with submissions approved by EPA does not foreclose EPA from seeking additional work to achieve the applicable cleanup standards.

1.4 Timeframes and Deadlines for RD/RA

The timeframes and deadlines for the submission of each deliverable are listed in Attachment 1. The "EPA Estimated Review Time" specified in Attachment 1 is set by EPA as a goal. EPA will strive to meet this goal in order to keep the project on schedule. However, if EPA is unable to meet one or more of these review periods, and deliverables from the Settling Defendant are impacted by the EPA delay, the deadlines for those deliverables shall be extended at EPA's discretion.

2.0 Project Planning and Support

2.1 Project Planning

The purpose of this task is to plan for the execution and overall management of the RD/RA. The technical and managerial activities required to implement the RD/RA are developed during the planning phase and are detailed in the RD/RA Work Plan. The following activities shall be performed as part of the project planning task.

2.1.1 Evaluate Existing Information

The Settling Defendant shall obtain and evaluate existing data and documents pertinent to the implementation of the ROD. This information shall be used to determine whether any additional data are needed for RD/RA implementation.

2.1.2 Develop RD/RA Work Plan

Develop Draft RD/RA Work Plan

The Settling Defendant shall prepare and submit a draft RD/RA Work Plan in accordance with the CD. The draft RD/RA Work Plan shall identify the procedures and deliverables necessary to complete the RD and shall include the required major deliverables and the schedule for submittal of those deliverables set forth in Attachment 1. The Settling Defendant shall identify any additional deliverables and include a schedule for the submission of these deliverables. The draft RD/RA Work Plan shall include an assessment and comprehensive description of any additional data collection, evaluation, or testing that may be necessary, and a comprehensive description of the plans and specifications to be prepared. A comprehensive design management schedule for completion of each major activity and submittal shall also be included. The draft RD/RA Work Plan shall be developed in conjunction with the Sampling and Analysis Plan (SAP) and Health and Safety Plan (HASP), although each plan shall be delivered under separate cover. Specifically, the draft RD/RA Work Plan shall present the following:

(a) A statement of the problem(s) and potential problem(s) posed by the Site and how the objectives of the RD/RA will address the problem(s).

(b) A background summary setting forth: (1) a brief description of the Site including any geographic, physiographic, hydrologic, geologic, demographic, ecological, cultural or natural resource features that are relevant to the RD/RA; (2) a brief synopsis of the history of the Site, including a summary of past operational practices, and a description of previous responses that have been conducted by local, State, Federal or private parties at the Site; and (3) a summary of the existing soil data including physical and chemical characteristics of the contaminants identified and their distribution within the Site.

(c) The Settling Defendant's technical and management approach to each task to be performed, including: (1) a detailed description of each task; (2) the assumptions used; (3) the identification

of any technical uncertainties (with a proposal for the resolution of those uncertainties); (4) the information needed for each task; (5) any information to be produced during and at the conclusion of each task; and (6) a description of the work products that will be submitted to EPA and DTSC. The Settling Defendant shall identify any subcontractors it plans to use to accomplish all or part of a task.

(d) A schedule with specific dates for the start and completion of each task and the submission of each deliverable deemed necessary to meet the requirements of this SOW. This schedule shall also include information about timing, initiation and completion of all critical path milestones for each activity and each deliverable, and the expected review time for EPA and DTSC.

The draft RD/RA Work Plan shall cover the components of construction. Specifically, the RD/RA Work Plan shall also include the following for the RA work:

(a) Methodologies, plans, deliverables and schedules for completion of at least the following:

- (1) Selection of the remedial action contractor.
- (2) Identification of and satisfactory compliance with applicable permitting requirements.
- (3) Identification of the projected O&M requirements, including performance monitoring, and an estimate of the annual O&M costs.

(b) A schedule for implementing all Remedial Action tasks identified in this SOW. The schedule shall provide specific dates for the start and completion of each task, including major construction and operation activities, and the submission of each deliverable deemed necessary to meet the requirements of this SOW as set forth in Attachment 1. This schedule shall also include information about timing, initiation and completion of all critical path milestones for each activity and each deliverable, and the expected review time for EPA.

(c) A description of the Settling Defendant's Remedial Action Project Team, including the Supervising Contractor, the organizational structure, a description of the responsibilities and authorities of all organizations and key personnel involved, and a description of key project personnel (project manager, resident engineer, quality assurance officer, etc.) qualifications.

(d) A detailed description of the technical approach for the construction, performance monitoring activities, operation and maintenance activities, and a detailed description of the overall management strategy for the RA. The technical approach descriptions shall include a detailed description of the task, the assumptions used, the information needed for each task, information to be produced during and at the conclusion of each task, and a description of the work products that will be submitted to EPA.

Prepare Final RD/RA Work Plan

EPA will provide comments on the draft RD/RA Work Plan in lieu of approving or disapproving the draft Work Plan pursuant to Paragraphs 11 and 12 of the CD. The Settling Defendant shall revise the draft Work Plan to address EPA's comments. The final Work Plan shall be submitted for review and approval in accordance with Paragraphs 11 and 12 of the CD within 15 days after

receipt of EPA comments. After approval of the RD/RA Work Plan by EPA, the RD/RA Work Plan and all attachments are incorporated into the CD as a requirement of the CD and shall be an enforceable part of the CD.

2.2 Develop Other Site-Specific Plans

The Settling Defendant shall prepare and submit to EPA for approval the other Site-specific plans specified in this SOW, as shown in Attachment 1, and in the approved RD/RA Work Plan in accordance with the CD. The deliverables shall be submitted for review in accordance with Paragraph 11 of the CD and either be approved or disapproved by EPA. If EPA disapproves the deliverable and requests modifications, the Settling Defendant shall revise the deliverable and resubmit it to EPA and DTSC as provided in Paragraph 11 of the CD. The following describes other Site-specific plans that will be required for field work to be conducted during the RD/RA process. The plans can be submitted in any format proposed by the Settling Defendant and approved by EPA.

2.2.1 Site Management Plan

A Site Management Plan (SMP) must provide EPA with a written understanding of how access, security, contingency procedures, management responsibilities, decontamination and waste disposal are to be handled during RD/RA. Contingency procedures refer to the actions to be taken to protect the local community and environmental receptors in the event of an accident or emergency during RD/RA. The SMP shall include procedures that will be followed when wastes will be temporarily stockpiled and maintained on-Site, or when wastes will be transported off-Site for storage, treatment, and/or disposal. The SMP shall also include plans for pollution control and mitigation that outline the process, procedures and safeguards that will be used to ensure contaminants or pollutants are not released off-Site or into Old Mormon Slough during RD/RA, including from the temporary on-Site stockpiling of wastes. The Settling Defendant shall incorporate any subcontractors' plans into the SMP. The Site Management Plan shall be submitted within 30 days after the Settling Defendant selects an approved Project Manager. If the remedial action work is phased over more than one construction season, then the Settling Defendant shall update the Site Management Plan for each phase.

2.2.2 Health & Safety Plan

A Site-specific Health and Safety Plan (HASP) for the Site must specify how workers will be protected during any Site activities, through the identification, evaluation and control of health and safety hazards. The HASP shall also provide an emergency response plan, in accordance with Section XV of the CD, describing how to handle potential Site emergencies and how to minimize the risks associated with a response. The HASP shall address overall health and safety considerations for all personnel on-Site, including Site visitors. Before initiating on-Site activities, the Settling Defendant shall incorporate any subcontractors' HASPs into the overall Site plan. The Settling Defendant shall provide the overall framework for Site safety and ensure that adequate warning systems and notifications are understood by all parties. The HASP shall specify employee training, protective equipment, medical surveillance requirements, standard

operating procedures, and a contingency plan in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120 (1)(1) and (1)(2). The HASP shall be submitted within 30 days after the Settling Defendant selects an approved Project Manager. If the remedial action work is phased over more than one construction season, then the Settling Defendant shall update the Health & Safety Plan for each phase.

Note: EPA shall approve all plans when they have been submitted in a satisfactory manner, except the Health and Safety Plan. EPA does not offer approval of Health and Safety Plans. Each employer, contractor, etc. is responsible for ensuring that its workers follow applicable Federal and State worker health and safety regulations. EPA approval of a submittal, however, does not absolve the Settling Defendant of the responsibility for ensuring that their work successfully achieves the Performance Standards and other provisions and requirements of the ROD, the Consent Decree and this SOW.

2.2.3 Sampling & Analysis Plan

The Sampling & Analysis Plan (SAP) consists of a Quality Assurance Project Plan (QAPP) and Field Sampling Plan (FSP). If the remedial action work is phased over more than one construction season, then the Settling Defendant shall update the SAP for each phase.

Quality Assurance Project Plan

A Quality Assurance Project Plan (QAPP) must be prepared in accordance with *EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations* (EPA QA/R-5, August 1994), latest draft or revision. The QAPP shall provide sufficient detail to demonstrate that:

- (a) the project technical and data quality objectives (DQOs) are identified in accordance with *Guidance for the Data Quality Objectives (DQO) Process* (EPA QA/G-4, September 1994);
- (b) the measurements or data acquisition methods are appropriate for achieving project objectives;
- (c) assessment procedures are sufficient for confirming that data of the type and quality needed and expected are obtained; and
- (d) any limitations on the use of the data are identified and documented.

Field Sampling Plan

A Field Sampling Plan (FSP) must be prepared in accordance with the regional guidance document, *Preparation of a U.S. EPA Region 9 Field Sampling Plan for Private and State-Lead Superfund Projects* (EPA QAMS DCN 9QA-06-93, August 1993). A Field Sampling Plan (FSP) must define the sampling and data collection methods, as well as the supporting rationale, that will be used for a project. The FSP must include sampling objectives; sample locations and

frequency; sampling equipment and procedures; and sample handling, labeling and analysis. An FSP must be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required.

2.3 Project Status Reports

The Settling Defendant shall prepare and submit periodic Project Status Reports to EPA and DTSC that document the progress and current status of each task required by this SOW and the approved RD/RA Work Plan. The report should consist of a simple tracking form for the task, a narrative of problems arising and description of steps planned or underway to mitigate them. The format and exact content of the reports shall be determined in the Work Plan. The Settling Defendant shall submit the reports monthly or as otherwise approved by EPA.

3.0 Community Involvement

The Settling Defendant shall provide community involvement support to EPA throughout the Soil RD/RA. The Settling Defendant shall provide community involvement support in accordance with the *Superfund Community Involvement Handbook*, April 2002 and *Superfund Community Involvement Toolkit*, September 2002. Community involvement support shall include the following:

3.1 Fact Sheet Preparation Assistance

The Settling Defendant shall, at the request of EPA, assist with the preparation of fact sheets that inform the public about activities related to the Soil RD/RA, the schedule for Soil RA, activities to be expected during construction, provisions for responding to emergency releases and spills, and any potential inconveniences such as traffic and noise that may affect the community during the Soil RA.

3.2 Technical Support

The Settling Defendant shall, at the request of EPA, provide technical support for community involvement, which may include providing technical input to news releases, fact sheets, briefing materials, and other community involvement vehicles.

3.3 Public Meeting Support

The Settling Defendant shall, at the request of EPA, prepare presentation materials and provide logistical support for public meetings and open houses.

3.4 Public Notice

The Settling Defendant shall, at the request of EPA or as otherwise needed, provide individual notice to residents in the vicinity of areas where work will be performed by the Settling Defendant.

3.5 Report Copies

The Settling Defendant shall, at the request of EPA, provide extra copies for the public of final deliverables or other documents produced pursuant to this CD.

3.6 Maintain Information Repository

The Settling Defendant shall, at the request of EPA, maintain a repository of information on activities related to the Site-specific Soil RD/RA, as described in the *Superfund Community Involvement Handbook*, April 2002 and *Superfund Community Involvement Toolkit*, September 2002.

4.0 Environmental Sample Acquisition

Environmental sample acquisition entails collecting environmental samples and information required to support the RD/RA. The planning for this task, including the scheduling shall be accomplished in Task 2.2.3 (Sampling and Analysis Plan), and shall result in the plans and timeframes required to collect the field data. Sample acquisition starts with EPA's approval of the Sampling and Analysis Plan and ends with the demobilization of field personnel and equipment from the Site. The Settling Defendant shall perform the following field activities or combination of activities for sample acquisition in accordance with the EPA-approved SAP developed in Task 2.2.3:

4.1 Mobilization and Demobilization

The Settling Defendant shall provide the necessary personnel, equipment and materials for mobilization and demobilization to and from the Site for the purpose of conducting the sampling program under Subtask 4.2, Field Investigation.

4.2 Field Investigation

The Settling Defendant shall conduct environmental sampling/field investigations to include, as appropriate, the following:

4.2.1 Site Reconnaissance

The Settling Defendant shall conduct Site surveys including, as appropriate, property, boundary, utility rights-of-way, and topographic information. These surveys are to refine the existing survey data and to ensure the accuracy of the information for the RD/RA.

4.2.2 Underground Utilities Search

The Settling Defendant shall obtain an underground utilities clearance before proceeding with any sample collection.

4.2.3 Soil Sample Collection

The Settling Defendant shall collect soil samples to determine the suitability and volume of potential on-Site fill material, and to confirm attainment of response goals.

4.2.4 Materials Testing

The Settling Defendant shall conduct any materials testing necessary for completion of the remedial design.

4.3 Sample Analysis

The Settling Defendants shall arrange for and carry out the analysis of environmental samples collected during the previous task, according to the Sampling and Analysis Plan approved by EPA in Task 2.2.3. The sample analysis task begins with arranging the sample analysis work with a state accredited laboratory and completing the field sampling program. This task ends with the Settling Defendant verifying that the laboratory has completed the requested analyses and has submitted all sample data packages for third party validation. For purposes of this SOW, “third party” is defined as any party other than the entity performing the activity.

4.4 Analytical Support and Data Validation

The Settling Defendant shall arrange for the Supervising contractor to carry out third party validation of the analytical data received from the laboratory during the previous task, according to the Sampling and Analysis Plan established in Task 2.2.3. The Settling Defendant may propose an alternate method of data validation for approval by EPA. The sample validation task begins with the Settling Defendants transmitting all sample packages received from the laboratory to the third party data validators for validation in accordance with EPA's National Functional Guidelines for Data Review. This task ends with the Settling Defendant providing EPA with data validation reports for the analytical data received from the laboratory.

4.5 Data Evaluation During RD

The Settling Defendant shall organize and evaluate both pre-existing Subarea X soil data and any data gathered during Tasks 4.2, 4.3 and 4.4 that will be used later in the RD effort. The evaluation of pre-existing Subarea X soil data shall consist of a tabulation of the data and spatial analysis to identify soil areas above the ROD prescribed cleanup goals. This work shall be performed in accordance with the Sampling and Analysis Plan established in Task 2.2.3. Data evaluation of data gathered during Tasks 4.2, 4.3 and 4.4 begins with the receipt of validated analytical data from SOW Task 4.4 (Analytical Support and Data Validation) and ends with the submittal of the Data Evaluation Summary Report described below. Specifically, the Settling Defendant shall perform the following activities or combination of activities during the data evaluation effort:

4.5.1 Data Usability Evaluation and Field QA/QC

The Settling Defendant shall evaluate and validate data gathered during Tasks 4.2, 4.3 and 4.4.

4.5.2 Data Reduction, Tabulation and Evaluation

The Settling Defendant shall tabulate, evaluate and interpret the data. The Settling Defendant shall present the data in an appropriate presentation format for final data tables. The Settling Defendant shall design and set up an appropriate database for pertinent information that will be used during the RD.

4.5.3 Development of RD Data Evaluation Summary Report

The Settling Defendant shall evaluate and present results in a Data Evaluation Summary Report for submittal to EPA and DTSC for review and approval. Sufficient information must be provided in this report to enable EPA to assess the adequacy of the work performed. The Settling Defendant shall submit the Data Evaluation Summary Report for review and approval, in accordance with Paragraph 11 of the CD, within 120 days after approval of the RD/RA Work Plan.

5.0 Preliminary Design

The Settling Defendant shall conduct Preliminary Design activities in accordance with the RD/RA Work Plan established in Task 2.1.2. The components that constitute the Preliminary Design are described below and shall be submitted for review and approval in accordance with Paragraph 11 of the CD. The Settling Defendant may use a phased approach to the design tasks in order to expedite implementation of the RA. The number of deliverables may vary for each phase; for example, a relatively straightforward phase may only require Preliminary Design and Final Design submittals. The schedule for submitting deliverables for each phase of the design shall be defined in the schedule presented in the RD/RA Work Plan. Each phase may have a separate deliverable and implementation schedule. The Preliminary Design for the first phase shall be submitted within 60 days after EPA approves the RD/RA Work Plan. The schedule for submitting subsequent phases of the design shall be defined in the schedule presented in the RD/RA Work Plan. With the exception of the Pre-Final Design, the components of the design described below apply to each phase of the design. Preliminary Design begins with the initial design and ends with the completion of approximately 30 percent of the design effort. At this stage the Settling Defendant shall have field-verified the existing conditions of the Site, as necessary. The Settling Defendant shall include the following components in the Preliminary Design.

5.1 Design Criteria

The Design Criteria shall define in detail the technical parameters upon which the design will be based. Specifically, the Design Criteria shall include the preliminary design assumptions and parameters, including as appropriate: (1) waste characterization; (2) volumes of soil to be

excavated and moved; (3) excavation, transport, grading, consolidation and capping methods to be used; (4) cleanup standards for soil excavation; (5) long-term operation and maintenance (O&M) and performance monitoring requirements; (6) all ARARs, pertinent codes, and standards to be complied with; and (7) technical factors of importance to the design and construction including use of currently accepted environmental control measures, constructability of the design, end-use of the land, and use of currently acceptable construction practices and techniques.

5.2 Preliminary Project Delivery Strategy and Scheduling

The Project Delivery Strategy and Scheduling shall describe how the RA project is to be delivered. This should include the contracting strategy to be used, the organizational structure, communication, etc.

5.3 Preliminary Construction Schedule

A preliminary RA schedule appropriate to the size and complexity of the project shall be included in the Preliminary Design.

5.4 Specifications Outline

The general specifications outline shall include all specification sections to be used. Format and organization shall be as described in Chapter 10 of the *Architect Engineer Manual*, USACE, AEIM-14, Omaha District, July 1989, updated July 1994, which incorporates the Construction Specification Institute (CSI) format. USACE has also developed standardized specifications for remedial design that should be followed whenever possible.

5.5 Preliminary Drawings

The drawings and schematics shall reflect organization and clarity. The submittal shall include the following: (1) an outline or listing of the drawings and schematics; (2) Site representations; (3) a general arrangement diagram; (4) engineering drawings for grading and paving; and (5) Site drawings. Engineering drawings shall be submitted in 11" x 17" sheets (or larger with approval from the EPA RPM). Other standard formats for use in preparing design drawings shall be those described in the USACE *Architect Engineer Manual*.

5.6 Basis of Design

The Basis of Design shall include a detailed description of the evaluations conducted to select the design approach. It shall include a Summary and Detailed Justification of Assumptions. This summary shall include (1) calculations supporting the assumptions; (2) the draft process flow diagram; (3) a detailed evaluation of how all ARARs will be met; (4) a plan for minimizing environmental and public impacts; and (5) a plan for satisfying any permitting requirements.

5.7 Institutional Controls and Access Restrictions

The remedy requires institutional controls prohibiting future residential use of the Site, including the Settling Defendant's property, and prohibiting any future use that could impact the integrity of the cap, as provided in Section IX of the CD. The Settling Defendant shall provide supporting information to DTSC for State development of a land use covenant. The RD/RA Work Plan shall identify any restricted or prohibited activities specified in the Land Use Covenant recorded by the Settling Defendant pursuant to Section IX of the CD. Approval of the RD/RA Work Plan by EPA in consultation with DTSC shall constitute approval to conduct these activities.

5.8 Explanation of Modifications

If EPA disapproves the Preliminary Design and requests modifications, the Settling Defendant shall revise this deliverable and shall resubmit it to EPA and DTSC in accordance with Paragraph 39 of the CD. The re-submitted deliverable shall be accompanied by an explanation of how the deliverable has been modified to address the deficiencies identified by EPA and shall identify where the modifications are incorporated.

6.0 Pre-Final and Final Design

The Settling Defendant shall conduct Pre-Final and Final Design activities in accordance with the RD/RA Work Plan established in Task 2.1.2. The components and deliverables that constitute the Pre-Final and Final Design are described below and shall be submitted for review and approval in accordance with the CD. All Pre-Final Design components and deliverables shall be submitted within 30 days after EPA approves the Preliminary Design. If a phased design approach is used, a Pre-Final Design may not be required for each phase. For example, a relatively straightforward phase may only require Preliminary Design and Final Design submittals. All Final Design deliverables shall be submitted within 30 days after EPA approves the Pre-Final Design. The Pre-Final Design shall clearly show any modifications to the design resulting from the Intermediate Design review, if any such Intermediate Design deliverables were required by EPA subsequent to issuance of this CD. After EPA review and approval of the Pre-Final Design in accordance with Paragraph 11 of the CD, the Final Design shall be submitted. All Final Design documents shall be approved and stamped by a Professional Engineer registered in California. EPA approval of the Final Design and the Final Construction Quality Assurance Plan, is required before initiating the RA, unless specifically authorized otherwise by EPA. If a phased design approach is not used, the Final Design shall include the Final Draft O&M Manual. In accordance with the design management plan and schedule in this SOW (Attachment 1) and the Work Plan (Task 2.1.2), the Settling Defendant shall include the following components in the Pre-Final Design:

6.1 Pre-Final Specifications

A complete set of construction specifications shall be submitted at the Pre-Final stage. All specifications shall conform to CSI format. The final design specifications must be consistent with the technical requirements of all ARARs, meet all ARARs, Performance Standards and

other provisions and requirements of the ROD, the CD, and this SOW. Any off-Site response activities shall be in compliance with the policies stated in the "Procedure for Planning and Implementing Off-Site Response Actions" (58 *Federal Register*, Number 182, September 22, 1993, pages 49200-49218) and other applicable guidance. Before submitting the project specifications, the Settling Defendant shall coordinate and cross-check the specifications and drawings.

6.2 Pre-Final Drawings

A complete set of construction drawings shall be submitted in the 11" x 17" size. A complete set of construction specifications shall also be submitted.

6.3 Pre-Final Basis of Design

A Pre-Final Basis of Design that incorporates any changes since the Preliminary Design shall be submitted.

6.4 Pre-Final Project Delivery Strategy and Scheduling

The Pre-Final Project Delivery Strategy shall incorporate any changes since the Preliminary Project Delivery Strategy and Scheduling.

6.5 Explanation of Modifications

If EPA disapproves the Pre-Final Design and requests modifications, the Settling Defendant shall revise this deliverable and shall resubmit it to EPA and DTSC in accordance with Paragraph 39 of the CD. The re-submitted deliverable shall be accompanied by an explanation of how the deliverable has been modified to address the deficiencies identified by EPA and shall identify where the modifications are incorporated.

6.6 Final Design Submittal

A Final Design shall be submitted within 30 days after EPA's approval of the Pre-Final Design. The Final Design shall include the final version of the components identified in Sections 6.1 through 6.4.

6.7 Draft and Final Construction Quality Assurance Project Plan

The Settling Defendant shall submit, as part of the Pre-Final Design, or as part of the Final Design if a phased approach is used, a draft Construction Quality Assurance Project Plan (CQAPP). The CQAPP shall be prepared in accordance with *Construction Quality Assurance for Hazardous Waste Land Disposal Facilities* (EPA, October 1986) and *Quality Assurance and Quality Control for Waste Contaminated Facilities* (EPA/600/R-93/182, September 1993) as deemed appropriate by EPA. EPA will provide comments on the draft CQAPP in lieu of approving or disapproving the draft CQAPP pursuant to Paragraph 11 of the CD. Within 15

days after receipt of EPA comments, the Settling Defendant shall finalize and submit the final CQAPP for review and approval in accordance with Paragraph 11 of the CD. If the remedial action work is phased over more than one construction season, then the Settling Defendant shall update the CQAPP for each phase. At a minimum, the CQAPP shall include the following elements:

6.7.1 Responsibility of Key Personnel

The Settling Defendant shall describe the responsibility and authority of all organizations and key personnel involved in the remedial action construction (contractors, consultants, etc.).

6.7.2 CQA Personnel Qualifications

The Settling Defendant shall establish the minimum qualifications of the CQA Officer and supporting inspection personnel.

6.7.3 Inspection Activities

The Settling Defendant shall establish the observations and tests that will be required to monitor the construction of the Remedial Action. The plan shall include the scope and frequency of each type of inspection to be conducted. Inspections shall also be required to verify compliance with environmental requirements and include, but are not limited to, air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. Inspections shall also ensure compliance with all health and safety procedures.

6.7.4 Sampling Requirements

The Settling Defendant shall establish the requirements for sampling activities, sample size, sample locations, frequency of testing, criteria for acceptance and rejection, and plans for correcting problems as addressed in the project specifications.

6.7.5 Documentation

The Settling Defendant shall describe the reporting requirements for CQA activities. This shall include, as appropriate, such items as daily summary reports and inspection data sheets.

6.8 Draft and Final-Draft Operations and Maintenance (O&M) Manual

The Settling Defendant shall submit as part of the Pre-Final Design, or as part of the Final Design if a phased approach is used, a draft Operation and Maintenance (O&M) Manual. EPA will provide comments on the draft O&M Manual in lieu of approving or disapproving the draft O&M Manual pursuant to Paragraph 11 of the CD. Within 15 days after receipt of EPA comments, the Settling Defendant shall finalize and submit the Final Draft O&M Manual for review and approval in accordance with Paragraph 11 of the CD. The O&M Manual submitted with the Final Design is referred to as the Final Draft O&M Manual because it will not be

finalized until completion of remedial construction. The O&M Manual shall describe, among other things, the compliance monitoring that will be conducted to measure performance in reaching the standards set in the ROD. At a minimum, the manual shall include the following:

6.8.1 Description of Normal O&M

The Settling Defendant shall prepare an operation and maintenance plan that includes a description of normal operation and maintenance and schedule for each O&M task.

6.8.2 Description of Potential Problems

The Settling Defendant shall prepare a description of potential problems including common and/or anticipated remedies and useful-life analysis of the cap and costs.

6.8.3 Compliance Monitoring and Sampling and Analysis Plan

The Settling Defendant shall prepare a plan describing the compliance monitoring strategy and tasks.

6.8.4 Action If Cleanup Standards Are Not Met

The Settling Defendant shall describe all actions to be implemented in the event that cleanup standards for soil are not met due to cap failure and a schedule for implementing these corrective actions.

6.8.5 Health and Safety Plan for O&M

The Settling Defendant shall prepare a Safety Plan for O&M including a description of precautions and necessary equipment for Site personnel, safety tasks required in the event of cap failure, and safety tasks necessary to address protection of nearby residents and environmental receptors.

6.8.6 Description of Equipment (If Applicable)

6.8.7 Records and Reporting Mechanisms

The Settling Defendant shall describe all records and reporting mechanisms required for O&M, including, as appropriate, performance monitoring results, operating logs, laboratory records (if any), records for operating costs, mechanisms for reporting emergencies, personnel and maintenance records, and reports to U.S. EPA, its designates, and DTSC.

7.0 Provide Construction Field Presence and Oversight

This task includes the field supervision and documentation of the RA constructor's work as it progresses on-Site. The task begins with the constructor's mobilization to the Site and ends with

the final inspection. The Settling Defendant shall provide a Resident Engineer to observe and document the constructor's daily field activities, procedures and inspections. If a phased approach is used, these requirements shall apply to all phases of RA work. Specific subtasks include the following:

7.1 Maintain Field Logs and Daily Diaries

The Settling Defendant shall prepare and maintain field logs and daily diaries for all construction activities. Field logs and diaries shall be incorporated into the regular construction progress reports.

7.2 Develop Field Sketches and Submit Construction Drawings

The Settling Defendant shall develop sketches reflecting field conditions during construction. The Settling Defendant shall submit marked-up construction drawings that document the progress of work and show all deviations in actual construction from the approved RD drawings. At completion of the RA, these markups will be used to produce final as-built record drawings that accurately reflect the completed project.

7.3 Monitor, Update and Report Construction Progress

The Settling Defendant shall monitor, update and report construction progress. Construction progress reports shall be submitted in accordance with the approved RD/RA Work Plan and CQAP. Reports shall present results of sampling activities during the reporting period. Reports shall document the progress and current status of construction activities, identify problems encountered during the reporting period, and describe steps planned or underway to mitigate them.

7.4 Conduct Inspections

The Settling Defendant shall conduct all observations and tests required to accurately assess construction progress in accordance with the approved CQAP. Inspections include those required to verify compliance with environmental requirements and with health & safety procedures.

7.5 Prepare Reports on Inspections

The Settling Defendant shall report the results of all inspections conducted to assess construction progress. Inspection reports shall be incorporated into construction progress reports according to the approved RD/RA Work Plan and CQAP.

7.6 Monitor Quality Assurance/Quality Control Procedures

The Settling Defendant shall monitor quality assurance/quality control procedures in accordance with the approved CQAP.

8.0 Project Performance (Operation and Maintenance [O&M])

The purpose of this task is to perform the activities necessary to operate the remedy, protect the integrity of the remedy, and evaluate performance, and document the attainment of the ROD cleanup standards. This task begins during the later stages of construction with the revision of the O&M Manual and ends with approval of final technical memoranda documenting achievement of the ROD cleanup standards. Specific subtasks include the following:

8.1 Review and Update Final-Draft O&M Manual

The Settling Defendant shall review and update the Final-Draft O&M Manual developed during RD/RA to include as-built drawings, data sheets, and any other changes as appropriate. The compliance monitoring data collection, laboratory tests and validation described therein must conform to the EPA requirements for Sampling and Analysis Plans specified below and in Section 4.1. The revised manual shall be submitted to EPA and DTSC for review and approval at least 45 days prior to the start of operation.

8.2 Ensure Adequate Training for O&M Staff

The Settling Defendant shall support all necessary training of the O&M staff.

8.3 Operate the Remedy

The Settling Defendant shall operate the remedy, as described in the O&M Manual, including normal operation and maintenance, preventative maintenance, repairs and adjustments as needed for the period until the remedy is operational and functional to attain the ROD cleanup standards. If the ROD cleanup standards are not being met, the Settling Defendant shall implement the actions specified in the “Action If Cleanup Standards Are Exceeded” section of the O&M Manual.

8.4 Evaluate Remediation Operational Performance

8.4.1 Oversight of Performance Tests

The Settling Defendant shall oversee any performance tests conducted by the constructor or operator and document procedures and results.

8.4.2 Conduct Performance Sampling

The Settling Defendant shall collect and test samples as necessary to evaluate proper remedial performance. Refer to Section 4.1 for sampling and analysis requirements during construction and start-up of the remedy. Also see Task 8.5 (Compliance Monitoring) below.

8.4.3 Project Performance Reporting

The Settling Defendant shall prepare a technical memorandum to summarize the performance of the remedy and required revisions to the O&M procedures. The Settling Defendant shall use, as appropriate, the guidance document entitled *Guide to Documenting Cost and Performance for Remediation Projects* (EPA 542-B-95-002, March 1995). The technical memorandum shall be submitted to EPA and DTSC 30 days prior to the final inspection, for review and approval pursuant to Section XIV of the CD.

8.5 Compliance Monitoring

The Settling Defendant shall perform the compliance monitoring activities specified in the O&M Manual, Compliance Monitoring and Sampling and Analysis Plan (CMSAP) section. These activities shall be ongoing and include, but are not limited to, the following activities:

8.5.1 Environmental Sample Acquisition

The Settling Defendant shall conduct environmental sample acquisition, which consists of collecting environmental samples and information required to support the evaluation of operational performance. The planning for this task, including the scheduling, shall be accomplished in SOW Task 8.1 (Review and Update O&M Manual), and shall result in the plans and schedules required to collect the field data. Sample acquisition starts with EPA's approval of the revised O&M Manual. The Settling Defendant shall perform the following field activities or combination of activities for sample acquisition in accordance with the approved Compliance Monitoring and Sampling and Analysis Plan (CMSAP) as part of the O&M Manual:

(a) Mobilization and Demobilization

The Settling Defendant shall provide the necessary personnel, equipment and materials for mobilization and demobilization to and from the Site for the purpose of conducting the sampling program under Subtask (b), Field Investigation.

(b) Field Investigation

The Settling Defendant shall conduct environmental sampling/field investigation as specified in the CMSAP.

8.5.2 Sample Analysis

The Settling Defendant shall arrange for and carry out the analysis of environmental samples collected during the previous task, according to the CMSAP approved by EPA. The sample analysis task begins with arranging the sample analysis work with a state accredited laboratory and ends with completing the field sampling program.

8.5.3 Analytical Support and Data Validation

The Settling Defendant shall arrange for and carry out third party validation of the analytical data received from the laboratory during the previous task, according to the approved CMSAP. The sample validation task begins with the Settling Defendant transmitting all sample data packages received from the laboratory to the third party data validators for validation in accordance with EPA's National Functional Guidelines for Data Review (see *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Data Review* [EPA 540/R-94/013, February 1994] and *USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Data Review* [EPA 540/R-94/013, February 1994]).

8.5.4 Compliance Monitoring Data Evaluation Summary Report

The Settling Defendant shall organize and evaluate both pre-existing data and data gathered during Tasks 8.5.1 and 8.5.2. This work shall be performed in accordance with the CMSAP. The EPA *Guidance for Data Quality Assessment* (EPA QA/G-9, July 1996) should also be consulted for this task. Data evaluation begins with the receipt of validated analytical data from the SOW Task 8.5.3 (Analytical Support and Data Validation). Specifically, the data evaluation effort shall include the following subtasks:

(a) Data Usability Evaluation and Field QA/QC.

(b) Data Reduction, Tabulation and Evaluation

The Settling Defendant shall tabulate, evaluate and interpret the data, and shall present the data in an appropriate presentation format. The Settling Defendant shall design and set up an appropriate database for pertinent information collected for use during the compliance monitoring.

(c) Development of Compliance Monitoring Data Evaluation Summary Report

The Settling Defendant shall evaluate and present the results in a Compliance Monitoring Data Evaluation Summary Report and submit the report to EPA and DTSC for review and approval, pursuant to Section XIV of the Consent Decree, within 60 days after the analytical results are received from the laboratory. Sufficient information must be provided in this report to enable EPA to assess the adequacy of the work performed.

9.0 Project Completion and Close Out

The purpose of the project completion and close-out activities is for the RA contractor to conduct the necessary inspections to verify completed work, make final payments, close out subcontracts, and prepare a Remedial Action Report.

9.1 Demobilization

9.1.1 Removal of Temporary Facilities

The Settling Defendant shall dismantle, pack up and move off-Site any temporary facilities (e.g., trailers) or equipment used during the course of the RA.

9.1.2 Site Restoration

At the direction of the EPA RPM, the Settling Defendant shall conduct reasonable activities that restore the physical appearance of the Site (e.g., road restoration, temporary fence removal, permanent fence replacement, landscaping, shoreline berm restoration)

9.2 Pre-Final/Final Activities

9.2.1 Conduct Pre-Final/Final Certification Inspection

Within 30 days after the Settling Defendant concludes that the RA has been fully performed, the Settling Defendant shall schedule and conduct with EPA and DTSC the pre-final certification inspection with the constructor and develop a punch list of deficiencies. The Settling Defendant shall prepare and submit a Pre-Final Inspection Certification Report within 30 days after the pre-final inspection, for review and approval by EPA pursuant to Section XIV of the CD. The report shall include the list of deficiencies, completion dates for outstanding items, and the date for a final inspection.

9.2.2 Conduct Lockout Inspection

The Settling Defendant shall arrange for the final lockout inspection and determine if all deficiencies have been corrected.

9.3 Remedial Action Report

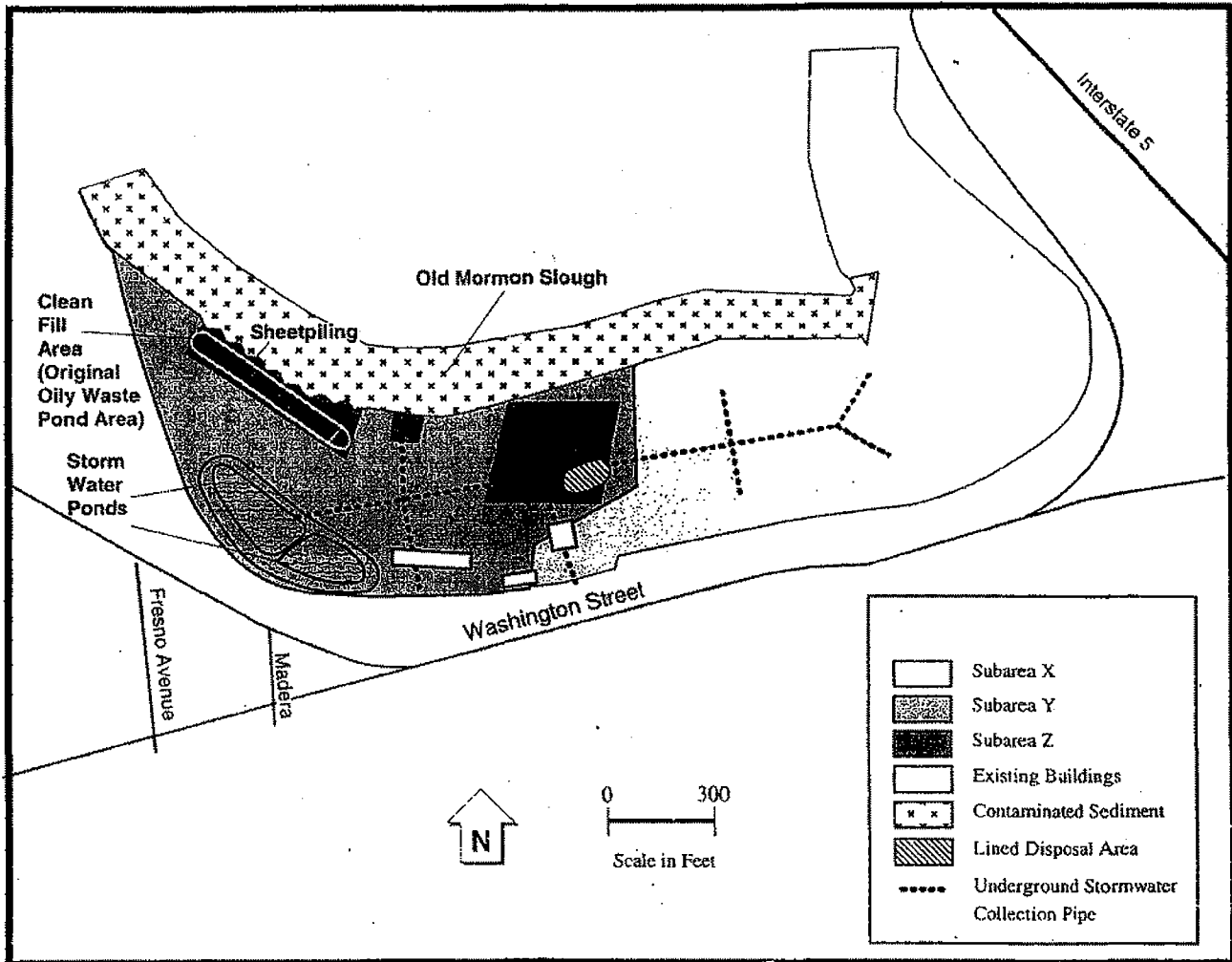
The Settling Defendant shall prepare and submit to EPA and DTSC a Remedial Action Report, in accordance with the fact sheet entitled, *Remedial Action Report, Documentation for Operable Unit Completion* (9355.0-39FS, June 1992). The report shall be submitted within 30 days after the Settling Defendant concludes that all construction has been performed satisfactorily and that ROD cleanup standards have been met. The report shall conform to all the requirements set forth in Paragraph 50 of the CD. The report shall summarize RA events, performance standards and construction quality control, construction activities, final inspection, and certification that the remedy is operational. The report shall be signed and stamped by a professional engineer.

9.4 Work Completion Report

The Settling Defendant shall prepare and submit to EPA and DTSC a Work Completion Report. The report shall be submitted within 30 days after the Settling Defendant concludes that all

work, including O&M for the period between the end of construction and the time that EPA and DTSC determine the remedy is operational and functional (O&F), has been performed satisfactorily. The report shall conform to all the requirements set forth in Paragraph 51 of the CD. The report shall state that all work has been completed in full satisfaction of the requirements of the CD. The report shall be signed and stamped by a professional engineer.

Figure 1. Site Map



Soil Contamination Subareas

McCormick & Baxter Soil O.U. RD/RA SOW

Attachment 1A
Summary of Deliverables Without Phasing of Work

Task	DELIVERABLE	Copies	DUE DATE	EPA ESTIMATED REVIEW TIME *
2.1.2	Draft RD/RA Work Plan (WP)	4 - EPA 2 - DTSC	30 days after Settling Defendant selects approved Project Manager	21 days after receipt of Draft WP
2.1.2	Final RD/RA Work Plan (WP)	4 - EPA 2 - DTSC	15 days after receipt of EPA comments	10 days after receipt of Final WP
2.2.1	Site Management Plan (SMP)	4 - EPA 2 - DTSC	30 days after Settling Defendant selects approved Project Manager	21 days after receipt of Draft SMP
2.2.2	Health & Safety Plan (HASP)	4 - EPA 2 - DTSC	30 days after Settling Defendant selects approved Project Manager	21 days after receipt of HASP
2.3	Sampling & Analysis Plan (SAP)	4 - EPA 2 - DTSC	30 days after Settling Defendant selects approved Project Manager	21 days after receipt of SAP
2.3	Project Status Reports	3 - EPA 2 - DTSC	Monthly on 10 th day of month (or as otherwise approved by EPA)	
4.5.3	RD Data Evaluation Summary Report	4 - EPA 2 - DTSC	120 days after RD/RA WP approval	21 days after receipt of Data Evaluation Summary Report
5.0	Preliminary Design	4 - EPA 2 - DTSC	60 days after RD/RA WP approval	21 days after receipt of Preliminary Design
5.7	Record Deed Restrictions for Settling Defendant's property	4 - EPA 2 - DTSC	Within 30 days after lodging of Consent Decree	
6.0	Pre-Final Design	4 - EPA 2 - DTSC	30 days after Preliminary Design approval	21 days after receipt of Pre-Final Design
6.7	Draft Construction Quality Assurance Project Plan (CQAPP)	4 - EPA 2 - DTSC	30 days after Preliminary Design approval	21 days after receipt of Draft CQAPP
6.8	Draft Operations and Maintenance (O&M) Manual	4 - EPA 2 - DTSC	30 days after Preliminary Design approval	21 days after receipt of Draft O&M Manual
6.6	Final Design Submittal	4 - EPA 2 - DTSC	30 days after Pre-Final Design approval	10 days after receipt of Final Design
6.8	Final-Draft O&M Manual	4 - EPA 2 - DTSC	15 days after receipt of EPA comments on Draft O&M Manual	10 days after receipt of Final-Draft O&M Manual
6.7	Final CQAPP	4 - EPA 2 - DTSC	15 days after receipt of EPA comments on Draft CQAP	10 days after receipt of Final CQAPP
8.5.4	Compliance Monitoring Data Evaluation Summary Report	4 - EPA 2 - DTSC	60 days after analytical results received from lab	21 days after receipt of Data Evaluation Summary Report

9.2	Pre-Final Inspection Report	4 - EPA 2 - DTSC	Within 30 days after Pre-Final Inspection	21 days after receipt of Pre-Final Inspection Report
9.3	Remedial Action Report	4 - EPA 2 - DTSC	Within 30 days after Settling Defendant concludes that all construction has been completed	21 days after receipt of Remedial Action Report
9.4	Work Completion Report (with Final O&M Manual)	4 - EPA 2 - DTSC	Within 30 days after Settling Defendant concludes that all work has been completed	21 days after receipt of Work Completion Report

* EPA's Estimated Review Time may be extended at EPA's discretion. See Section 1.4 of the SOW.

6.6	Final Design -- Phase II	4 - EPA 2 - DTSC	30 days after Phase II Pre-Final Design approval	10 days after receipt of Final Design
6.8	Final-Draft O&M Manual	4 - EPA 2 - DTSC	15 days after receipt of EPA comments on Draft O&M Manual	10 days after receipt of Final-Draft O&M Manual
2.2.1	Update SMP	4 - EPA 2 - DTSC	30 days after Phase II Final Design approval	21 days after receipt of Updated SMP
2.2.2	Update HASP	4 - EPA 2 - DTSC	30 days after Phase II Final Design approval	21 days after receipt of Updated HASP
2.3	Update SAP	4 - EPA 2 - DTSC	30 days after Phase II Final Design approval	21 days after receipt of Updated SAP
6.7	Update CQAPP	4 - EPA 2 - DTSC	30 days after Phase II Final Design approval	21 days after receipt of Updated CQAPP
8.5.4	Compliance Monitoring Data Evaluation Summary Report	4 - EPA 2 - DTSC	60 days after analytical results received from lab	21 days after receipt of Data Evaluation Summary Report
9.2	Pre-Final Inspection Report	4 - EPA 2 - DTSC	Within 30 days after Pre-Final Inspection	21 days after receipt of Pre-Final Inspection Report
9.3	Remedial Action Report	4 - EPA 2 - DTSC	Within 30 days after Settling Defendant concludes that all construction has been completed	21 days after receipt of Remedial Action Report
9.4	Work Completion Report (with Final O&M Manual)	4 - EPA 2 - DTSC	Within 30 days after Settling Defendant concludes that all work has been completed	21 days after receipt of Work Completion Report

* EPA's Estimated Review Time may be extended at EPA's discretion. See Section 1.4 of the SOW

** Pre-Final Design submittals may not be required for relatively straightforward phases of work

*** If work is phased, Draft O&M Manual may be submitted with final phase

Attachment 2
Regulations and Guidance Documents

The following list, while not comprehensive, comprises many of the regulations and guidance documents that apply to the RD/RA process:

1. American National Standards Practices for Respiratory Protection. American National Standards Institute Z88.2-1980; March 11, 1981.
2. ARCS Construction Contract Modification Procedures September 89, OERR Directive 9355.5-01/FS.
3. CERCLA Compliance with Other Laws Manual (2 vol.), U.S. EPA, Office of Emergency and Remedial Response, August 1988 (DRAFT), OSWER Directive No. 9234.1-01 and -02.
4. Community Relations in Superfund -- A Handbook, U.S. EPA, Office of Emergency and Remedial Response, June 1988, OSWER Directive No. 9230.0-3B.
5. A Compendium of Superfund Field Operations Methods (2 vol.), U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.
6. Construction Quality Assurance for Hazardous Waste Land Disposal Facilities, U.S. EPA, Office of Solid Waste and Emergency Response, October 1986, OSWER Directive No. 9472.003.
7. Contractor Requirements for the Control and Security of RCRA Confidential Business Information, March 1984
8. The Data Quality Objectives Process for Superfund: Interim Final Guidance, U.S. EPA, EPA/540/R-93/071, September 1993.
9. Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual, U.S. EPA Region IV, Environmental Services Division, April 1, 1986 (revised periodically).
10. EPA NEIC Policies and Procedures Manual, EPA-330/9-78-001-R, May 1978, revised November 1984.
11. Federal Acquisition Regulation, Washington, DC; U.S. Government Printing Office (revised periodically).
12. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 9355.3-01.
13. Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties, U.S. EPA Office of Emergency and Remedial Response, EPA/540/G-90/001, April 1990.
14. Guidance on Expediting Remedial Designs and Remedial Actions, EPA/540/G-90/006, August 1990.
15. Guidance for Conducting Treatability Studies Under CERCLA, U.S. EPA, Office of Emergency and Remedial Response, December 1989, EPA/540/2-89/058.
16. Guide to Management of Investigation-Derived Waste, U.S. EPA Office of Solid Waste and Emergency Response, Publication 9345.3-03FS, January 1992.

17. Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 1980.
18. Health and Safety Requirements of Employees Employed in Field Activities, U.S. EPA, Office of Emergency and Remedial Response, July 12, 1982, EPA Order No. 1440.2.
19. Interim Guidance on Compliance with Applicable or Relevant and Appropriate Requirements, U.S. EPA Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.
20. Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.
21. Methods for Evaluating the Attainment of Cleanup Standards: Vol. 1, Soils and Soil Media, February 1989, EPA 23/02-89-042; vol. 2, Ground Water (July 1992).
22. National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule, Federal Register 40 CFR Part 300, March 8, 1990.
23. NIOSH Manual of Analytical Methods, 2nd edition. Volumes I-VII for the 3rd edition, Volumes I and II, National Institute of Occupational Health.
24. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, National Institute of Occupational Health/Occupational Health and Safety Administration/United States Coast Guard/Environmental Protection Agency, October 1985.
25. Permits and Permit Equivalency Processes for CERCLA On-Site Response Action, February 19, 1992, OSWER Directive 9355.7-03.
26. Procedure for Planning and Implementing Off-Site Response Actions, Federal Register, Volume 50, Number 214, November 1985, pages 45933-45937.
27. Procedures for Completion and Deletion of NPL Sites, U.S. EPA, Office of Emergency and Remedial Response, April 199, OSWER Directive No. 9320.2-3A.
28. Quality in the Constructed Project: A Guideline for Owners, Designers and Constructors, Volume 1, Preliminary Edition for Trial Use and Comment, American Society of Civil Engineers, May 1988.
29. Remedial Design/Remedial Action (RD/RA) Handbook, U.S. EPA, Office of Solid Waste and Emergency Response (OSWER), 9355.0-04B, EPA 540/R-95/059, June 1995.
30. Revision of Policy Regarding Superfund Project Assignments, OSWER Directive No. 9242.3-08, December 10, 1991 [Guidance, p.2-2]
31. Scoping the Remedial Design (Fact Sheet), February 1995, OSWER Publ. 9355-5-21 FS.
32. Standard Operating Safety Guides, U.S. EPA, Office of Emergency and Remedial Response, November 1984.
33. Standards for the Construction Industry, Code of Federal Regulations, Title 29, Part 1926, Occupational Health and Safety Administration.
34. Standards for General Industry, Code of Federal Regulations, Title 29, Part 1910, Occupational Health and Safety Administration.
35. Structure and Components of Five-Year Reviews, OSWER Directive No. 9355.7-02, May 23, 1991. [Guidance p. 3-5]
36. Superfund Guidance on EPA Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties, April 1990, EPA/540/G-90/001.

37. Superfund Remedial Design and Remedial Action Guidance, U.S. EPA, Office of Emergency and Remedial Response, June 1986, OSWER Directive No. 9355.0-4A.
38. Superfund Response Action Contracts (Fact Sheet), May 1993, OSWER Publ. 9242.2-08FS.
39. TLVs-Threshold Limit Values and Biological Exposure Indices for 1987-88, American Conference of Governmental Industrial Hygienists.
40. Treatability Studies Under CERCLA, Final. U.S. EPA, Office of Solid Waste and Emergency Response, EPA/540/R-92/071a, October 1992.
41. USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, U.S. EPA, Office of Emergency and Remedial Response, July 1988.
42. USEPA Contract Laboratory Program Statement of Work for Organic Analysis, U.S. EPA, Office of Emergency and Remedial Response, February 1988.
43. User's Guide to the EPA Contract Laboratory Program, U.S. EPA, Sample Management Office, August 1982.
44. Value Engineering (Fact Sheet), U.S. EPA, Office of Solid Waste and Emergency Response, Publication 9355.5-03FS, May 1990.

[illegible]

[illegible]